

# DIAGNOSTIC GUIDE FOR RICE DISEASES

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## Diagnostic guide for rice diseases

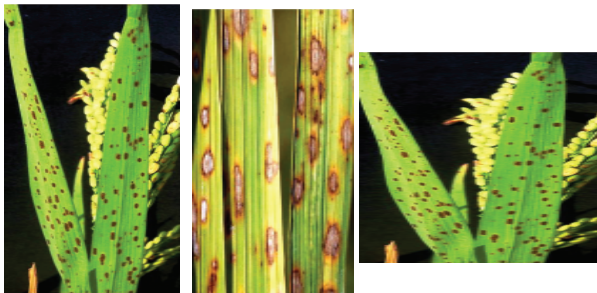
### Rice blast



#### Pre-disposing factors

- ❖ Low night temperature of 20-24°C with high RH 90% or more
- ❖ Copious dew formation
- ❖ Continuous light showers of rain and cloudy weather

### Brown spot



### Pre-disposing factors

- ❖ Relative humidity more than 89% and long drought spell
- ❖ Heavy rainfall in September accompanied by temperature of 25-30°C and continuous cloudy weather favours severity of disease

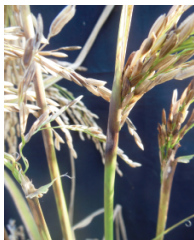
## Sheath blight



### Predisposing factors

- ❖ An optimal temperature of 28-34°C with high relative humidity (95%)
- ❖ Transplanting of more number of seedlings (>3/hill) invites higher disease incidence and spread

### Sheath rot



### Predisposing factors

- ❖ An optimal temperature of 25 to 32°C with high relative humidity
- ❖ Intermittent rains greatly favours the development of severe disease symptoms

## **False smut**



### **Predisposing factors**

- ❖ High moisture favours disease development
- ❖ Cloudy weather followed by continuous drizzling rain at milky stage of the crop with low night temperature ( $25^{\circ}\text{C}$ ) favours disease development

### **Bakanae/foot rot/ foolish seedling**



### **Predisposing factors**

- ❖ Infected seeds of previous season
- ❖ High relative humidity (>80%)
- ❖ Low temperature and continuous cloudy weather

## **Seedling blight**



### **Pre-disposing factors**

- ❖ Prolonged cool and wet weather conditions
- ❖ Delay seedling emergence and poor seed quality increases the seedling blight disease

### Bacterial leaf blight



#### Pre-disposing factors

- ❖ Clipping the leaf tip at the time of transplanting
- ❖ Heavy rain, heavy dew and flooding
- ❖ Optimum temperature of 25-35°C

## **Bacterial leaf streak**



### **Pre-disposing factors**

- ❖ Presence of the bacteria on leaves and in the water or in plant debris
- ❖ Temperature range of 26-32°C
- ❖ High humidity between 80-94%
- ❖ More number of rainy days with cloudy weather and less sun shine hours

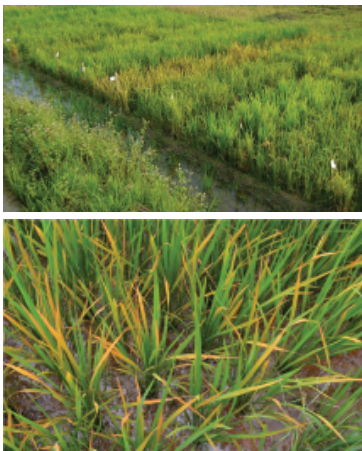
### Bacterial sheath rot



### Pre-disposing factors

- ❖ Soil nutrient imbalance
- ❖ Heavy rain fall and high humidity

## Rice Tungro



### Pre-disposing factors

- ❖ Early rain during April-May
- ❖ Late planting (After 15<sup>th</sup> Aug)
- ❖ Nursery raising near the ratoon crops
- ❖ Appearance of green leaf hopper within 50 days of transplanting

### Management

#### Common management practices

- ❖ Use healthy seeds from disease free crop
- ❖ Apply recommended dose of fertilizers in split doses. Avoid heavy doses of Nitrogen
- ❖ Maintain field sanitation by destroying the infected plant parts
- ❖ Remove and destroy the weed hosts in the field bunds and channels
- ❖ Adopt deep summer ploughing followed by flooding of field
- ❖ Use cow dung based Farm Yard Manure
- ❖ Use need based chemical control measures
- ❖ Avoid close spacing / dense planting
- ❖ Avoid flow of irrigation water from infected to healthy field
- ❖ Treat the seeds with Carbendazim 50WP @ 2g/kg to avoid seed borne diseases
- ❖ Seed treatment with biocontrol agent *Trichoderma viride* 1WP @ 4g/kg or *Pseudomonas fluorescens* 0.5WP @ 10g/kg of seed

#### Rice Blast

- ❖ Spray with Tricyclazole 75WP @ 0.6g/lit of water or

Carbendazim 50WP @ 1g/lit of water

### **Brown Spot**

- ❖ Spray with Propiconazole 25EC @ 1ml/lit of water or Mancozeb 75WP @ 2g/lit of water or Carbendazim 50WP @ 1g/lit of water

### **Sheath blight**

- ❖ Do not transplant more than 3 seedlings/hill
- ❖ Give need based spray of effective fungicides- Validamycin 3L @ 2ml/lit of water or Hexaconazole 5EC @ 2ml/lit of water or Thifluzamide 24% SC @ 1ml/lit of water or Carbendazim 50WP @ 1g/lit of water

### **Sheath rot**

- ❖ Spray twice at 10 days interval starting from boot leaf stage with Carbendazim 50WP @ 1g/lit of water

### **False smut**

- ❖ Spray Carbendazim 50WP @ 1g/lit of water or Mancozeb 75WP @ 2g/lit of water or Carbendazim 12% + Mancozeb 63% WP (1.5g/lit of water) or Copper hydroxide 77WP @ 2g/lit of water twice at seven days interval at boot leaf stage

### **Bakanae/foot rot/ foolish seedling**

- ❖ Using the salt water to separate lightweight, infected seeds from seed lots and thereby reduce seed borne inoculums.
- ❖ Spray Carbendazim 50 WP @ 1g/lit of water in infected seed bed / field

### **Seedling blight**

- ❖ After disease initiation spray Mancozeb 75WP @ 1.5g/lit of water in infected seed bed

### **Bacterial blight and Bacterial leaf streak**

- ❖ Application of potassium fertilizer along with alternate drying and flooding in the field helps in reducing infection
- ❖ Seed treatment by soaking 10kg seeds in 20 litres of water containing 1.5gm Streptocycline + 20 gm Captan for 8-10 hours
- ❖ Seedling root dip in solution of Plantomycin (0.1%) or Streptocycline (0.01%) for 30 minutes before transplanting
- ❖ Just at the appearance of the disease, spray Plantomycin 1g + Copper oxychloride 1g/lit. twice at an interval of 8 days and don't allow flow of water

from infected field

### **Bacterial Sheath rot**

- ❖ Spray Streptomycin sulphate + Tetracycline hydrochloride @ 0.15g/lit of water around the plant base in the infected patch

### **Rice Tungro**

- ❖ Avoid late planting (beyond 2<sup>nd</sup> week of August) in Eastern India states
- ❖ Give need based spray of Imidacloprid 17.8SL @ 0.25ml/lit of water or Thiamethoxam 25WG @ 0.2g/lit of water

### **Important information:**

- ❖ If hand operated machine is used then use 200 litres of water for spraying the pesticides per acre of land and use 80 litres of water for automatic machines per acre of land.
- ❖ Protect your hand, face and eyes while spraying the fungicides and wash your hands, face and eyes thoroughly with clean water after spraying.
- ❖ Always keep the poison out of reach to the kids and children



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